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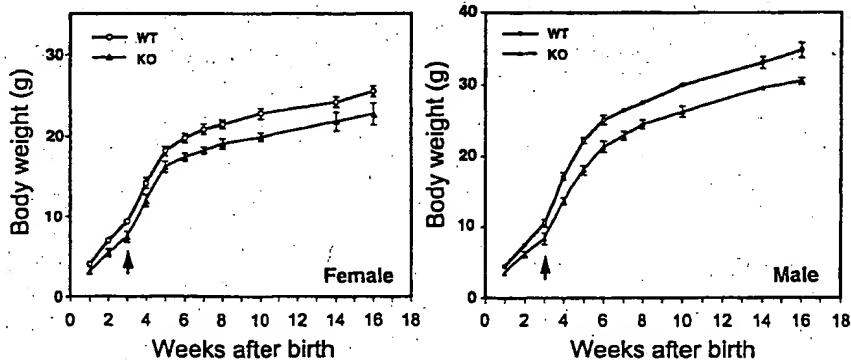
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(54) Title: NON-HUMAN TRANSGENIC ANIMAL WHOSE GERM CELLS AND SOMATIC CELLS CONTAIN A KNOCK-
OUT MUTATION IN DNA ENCODING ORPHAN NUCLEAR RECEPTOR ERR α



(57) Abstract: The present invention relates to a transgenic non-human mammal whose germ cells and somatic cells contain a knockout mutation in DNA encoding orphan nuclear receptor ERR α . More specifically, the invention relates to knockout mice whose germ cells and somatic cells contain a knockout mutation in DNA encoding orphan nuclear receptor ERR α . The invention further relates to such knockout non-human mammals which express an ERR α gene which is different from the endogenous gene which was disrupted. In a particular embodiment, the invention relates to a transgenic mouse having its endogenous ERR α gene disrupted and expressing human ERR α . As well, the invention relates to cell lines in which ERR α activity (and/or level) has been inactivated or augmented. The invention further relates to uses and methods of the transgenic animals of the present invention to select agents which modulate the expression and/or activity of ERR α , in particular in relation to fatty acid metabolism.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No PCT/CA 00/00145					
A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C12N15/12 C12N15/11 C12N5/10 A01K67/027 C07K14/705 A61K48/00 A61K49/00 G01N33/50 C12Q1/68 A61K39/395 A61P3/06					
According to International Patent Classification (IPC) or to both national classification and IPC					
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 C12N A01K C07K A61K G01N C12Q A61P					
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched					
Electronic data base consulted during the international search (name of data base and, where practical, search terms used)					
C. DOCUMENTS CONSIDERED TO BE RELEVANT					
Category *	Citation of document, with indication, where appropriate, of the relevant passages				Relevant to claim No.
X	BRYANT H AND DERE W: "Selective estrogen receptor modulators: an alternative to hormone replacement therapy" PROC SOC EXP BIOL MED., vol. 217, no. 1, January 1998 (1998-01), pages 45-52, XP002142941 page 49, column 2, paragraph 2; figure 3; table 1				23,33
A	SLADEK R ET AL: "The orphan nuclear receptor estrogen-related receptor alpha is a transcriptional regulator of the human medium-chain acyl coenzyme A dehydrogenase gene" MOL CELL BIOL., vol. 17, no. 9, September 1997 (1997-09), pages 5400-5409, XP002142942 cited in the application				
-/-					
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.					
* Special categories of cited documents : <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 48%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"&" document member of the same patent family</p> </div> </div>					
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Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3018			Authorized officer Lonnoy, O		

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>VEGA R ET AL: "A role for estrogen-related receptor alpha in the control of mitochondrial fatty acid beta-oxidation during brown adipocyte differentiation" JOURNAL OF BIOLOGICAL CHEMISTRY., vol. 272, no. 50, 12 December 1997 (1997-12-12), pages 31693-31699, XP002142943 cited in the application</p>	
A	<p>EP 0 733 705 A (SALK INST FOR BIOLOGICAL STUDI) 25 September 1996 (1996-09-25) Experimental Section V</p>	
A	<p>LUO J ET AL: "Placental abnormalities in mouse embryos lacking the orphan nuclear receptor ERR-beta" NATURE., vol. 388, no. 6644, 21 August 1997 (1997-08-21), pages 778-782, XP002142944.</p>	
P,A	<p>WO 99 65486 A (PAN LYDIA CODETTA ;KE HUA ZHU (US); LI MEI (US); PFIZER PROD INC ()) 23 December 1999 (1999-12-23)</p>	

INTERNATIONAL SEARCH REPORT

International Application No. PCT/CA 00 00145

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 22,32,39

Claims 22, 32 and 39 refer to a modulator of glucose and/or fat metabolism in vivo identified by any one of the described methods without giving a true technical characterization. Moreover, no such compound is defined in the application. In consequence, the scope of said claims is ambiguous and vague, and their subject-matter is not sufficiently disclosed and supported (Art. 5 and 6 PCT). No search can be carried out for such speculative claims the wording of which is, in fact, a mere recitation of the results to be achieved.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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